

ABSTRACT OF THE DISCLOSURE

A satellite television ground system, particularly for a make or break satellite television signal system, includes an outdoor unit and an indoor unit that are in communication with each other via a single coaxial cable and an optional separate single conductor for power. The satellite television ground system is operative to measure and reverse frequency conversion errors utilizing DSP techniques, allowing for more precise generation and transmission of uplink signals from the satellite television ground system. Control data for the system is sent via a low data rate connection on a power cable thereof, or by a narrowband signaling channel via a coax cable. The system also utilizes a single reference oscillator to drive the various frequency synthesizers and the like. The satellite television ground system utilizes related oscillators for the uplink and downlink sections. Carrier frequency offset in the downlink is measured in a carrier tracking loop part of a television signal demodulator. The carrier frequency offset of the downlink is utilized to synthesize various frequency signals for the uplink and downlink sections to correct frequency errors. For the uplink section, the carrier frequency offset of the downlink is reversed in the uplink. If the uplink is on a different frequency, the measured offset of the system master oscillator can be scaled by different synthesizer ratios.

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